

WHAT IS CLAIMED IS:

1. A resid fuel additive for reducing a pollutant emission, the additive comprising:

a plant oil extract;
an antioxidant; and
a thermal stabilizer.

2. The resid fuel additive of claim 1, wherein the plant oil extract comprises an oil extract of a plant of the *Leguminosae* family.

3. The resid fuel additive of claim 1, wherein the plant oil extract is selected from the group consisting of oil extract of vetch and oil extract of barley.

4. The resid fuel additive of claim 1, wherein the plant oil extract comprises chlorophyll.

5. The resid fuel additive of claim 1, wherein the antioxidant comprises β -carotene.

6. The resid fuel additive of claim 1, wherein the thermal stabilizer comprises jojoba oil.

7. The resid fuel additive of claim 1, wherein the thermal stabilizer comprises an ester of a C20-C22 straight chain monounsaturated carboxylic acid.

8. The resid fuel additive of claim 1, wherein the plant oil extract comprises oil extract of vetch, wherein the antioxidant comprises β -carotene, and wherein the thermal stabilizer comprises jojoba oil.

9. The resid fuel additive of claim 1, further comprising a diluent.

10. The resid fuel additive of claim 9, wherein the diluent is selected from the group consisting of toluene, diesel fuel, gasoline, jet fuel, and mixtures thereof.

11. The resid fuel additive of claim 1, further comprising an oxygenate.

12. The resid fuel additive of claim 11, wherein the oxygenate is selected from the group consisting of methanol, ethanol, methyl tertiary butyl ether, ethyl tertiary butyl ether, and tertiary amyl methyl ether, and mixtures thereof.

13. The resid fuel additive of claim 1, further comprising at least one additional additive selected from the group consisting of cetane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock

additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, antiwear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, and mixtures thereof.

5 14. The resid fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the additive is from about 0.25:1 to about 2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 0.5:1 to about 2:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the additive is from about 0.5:1 to 2:1.

10 15. The resid fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the additive is from about 0.3:1 to about 0.9:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 0.3:1 to about 0.9:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the additive is about 0.5:1 to about 1.5:1.

15 16. The resid fuel additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the additive is about 0.6:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 0.6:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the additive is about 1:1.

20 17. The resid fuel additive of claim 1, wherein the resid fuel additive comprises a High Residual fuel additive.

18. The resid fuel additive of claim 1, wherein the resid fuel additive comprises a Bunker C fuel additive.

25 19. The resid fuel additive of claim 8, wherein the additive comprises about 8 ml jojoba oil per 3785 ml of the additive, about 4 g β -carotene per 3785 ml of the additive, and about 19.36 g oil extract of vetch per 3785 ml of the additive.

20. The resid fuel additive of claim 8, wherein the additive comprises about 32 ml jojoba oil per 3785 ml of the additive, about 32 g β -carotene per 3785 ml of the additive, and about 155 g oil extract of vetch per 3785 ml of the additive.

30 21. A resid fuel additive for reducing a pollutant emission, the additive comprising:

an antioxidant; and

a thermal stabilizer.

22. The resid fuel additive of claim 21, wherein the antioxidant comprises β -carotene.

23. The resid fuel additive of claim 21, wherein the thermal stabilizer
5 comprises jojoba oil.

24. The resid fuel additive of claim 21, wherein the thermal stabilizer comprises an ester of a C20-C22 straight chain monounsaturated carboxylic acid.

25. The resid fuel additive of claim 21, further comprising a plant oil extract.

26. The resid fuel additive of claim 25, wherein the plant oil extract
10 comprises an oil extract of a plant of the *Leguminosae* family.

27. The resid fuel additive of claim 25, wherein the plant oil extract is selected from the group consisting of oil extract of vetch and oil extract of barley.

28. The resid fuel additive of claim 25, wherein the plant oil extract comprises chlorophyll.

29. The resid fuel additive of claim 21, wherein the antioxidant comprises β -carotene.
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30. The resid fuel additive of claim 21, wherein the thermal stabilizer comprises jojoba oil.

31. The resid fuel additive of claim 21, wherein the antioxidant comprises β -carotene, the thermal stabilizer comprises jojoba oil, and wherein the additive comprises
20 about 4 ml jojoba oil per 3785 ml of the additive and about 4 g β -carotene per 3785 ml of the additive.

32. The resid fuel additive of claim 21, wherein the antioxidant comprises β -carotene and the thermal stabilizer comprises jojoba oil, and wherein the additive
25 comprises about 32 ml jojoba oil per 3785 ml of the additive and about 32 g β -carotene per 3785 ml of the additive.

33. The resid fuel additive of claim 21, wherein the antioxidant comprises β -carotene and wherein the thermal stabilizer comprises jojoba oil.

34. The resid fuel additive of claim 30, wherein a ratio of milliliters jojoba
30 oil to grams of β -carotene in the additive is from about 0.5:1 to 2:1.

35. The resid fuel additive of claim 30, wherein a ratio of milliliters jojoba oil to grams of β -carotene in the additive is about 0.5:1 to about 1.5:1.

36. The resid fuel additive of claim 30, wherein a ratio of milliliters jojoba oil to grams of β -carotene in the additive is about 1:1.

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